Table of comparative maximum and minimum temperatures for November.

State or Territory.	Station.	For 1886.		Since establishment of station.			
		Max.	Min.	Max.	Year.	Min.	Year.
		°	°	°		°	
Alabama	Mobile	76.4	30.5	82.0	1879, 1882	27.0	'72,'77,'81
Do	Montgomery	79.0	31.3	83.0	1879, 1882	21.0	1872
Arizona	Prescott	71.0	— 2.0	75.0	1878, 1885	— 1.0	1880
Do	Fort Apache	72.0	3.6	77.0	1882	9.0	1880
Arkansas	Fort Smith	75.0	22.1	86.0	1882	— 1.0	1880
Do	Little Rock	72.7	25.0	83.0	1882	10.0	1880
California	San Francisco	75.0	45.0	78.0	1871	41.0	1880
Do	San Diego	77.0	40.0	85.0	1873	38.0	1881
Colorado	Denver	63.0	— 6.0	76.0	1876, 1879	—18.0	1877
Do	Pike's Peak	23.9	—27.0	33.2	1885	—38.0	1880
Connecticut	New Haven	70.2	24.0	71.5	1882	2.0	1875
Do	New London	66.3	26.5	72.0	1882	4.0	1875
Dakota	Fort Buford	57.5	—10.0	62.0	1879	—20.0	1881
Do	Yankton	70.4	0.0	76.0	1876	—15.0	1875
Delaware	Del. Breakwater	.....	.....	73.0	1881	23.0	1880
Do	Cape Henlopen	74.0	35.6	.....	.....	.....	.....
District of Columbia	Washington City	73.1	22.2	80.0	1879	12.5	1880
Florida	Jacksonville	81.9	35.5	84.0	1875, 1877	30.0	1873
Do	Key West	89.8	64.1	91.0	1876	52.0	1873
Georgia	Atlanta	75.2	27.9	80.5	1882	20.0	1881, 1883
Do	Savannah	78.0	35.0	82.0	1875	22.0	1872
Idaho	Boise City	58.3	9.4	70.0	1878	7.0	1880
Illinois	Cairo	74.2	24.6	80.5	1882	7.0	1872
Do	Chicago	68.8	16.4	72.0	1874, 1882	— 2.0	1872
Indiana	Indianapolis	71.6	16.5	75.0	1879	— 5.0	1880
Indian Territory	Fort Sill	76.9	19.0	84.0	1875	— 4.0	1880
Iowa	Dubuque	69.5	11.3	69.0	1874, 1879	— 9.0	1875
Do	Keokuk	69.4	15.2	74.0	1874	— 3.0	1872
Kansas	Dodge City	73.0	7.3	83.0	1875	— 7.0	1880
Do	Leavenworth	77.0	15.0	77.0	1874	0.0	1872
Kentucky	Louisville	75.1	21.7	78.0	1879	4.5	1872
Louisiana	New Orleans	82.2	34.4	84.7	1885	31.5	1881
Do	Shreveport	79.4	26.7	86.0	1882	18.0	1880
Maine	Eastport	.....	.....	64.0	1882	—13.0	1875
Do	Portland	58.7	21.4	66.0	1882	— 6.0	1875
Maryland	Baltimore	73.2	26.0	78.0	1879	15.0	1880
Massachusetts	Boston	66.1	24.0	75.0	1876	— 2.0	1875
Michigan	Detroit	64.9	18.6	69.0	1879, 1882	0.0	1880
Do	Alpena	67.0	11.2	64.2	1885	— 4.0	1880
Minnesota	Duluth	61.0	— 4.3	65.0	1874	—29.0	1875
Do	Saint Paul	73.6	— 3.3	72.0	1874	—24.5	1875
Mississippi	Vicksburg	81.1	27.8	84.8	1885	23.0	1877, 1880
Missouri	Saint Louis	75.1	23.2	82.0	1879	5.0	1872
Montana	Fort Benton	.....	.....	71.6	1884	—31.0	1875
Do	Helena	58.8	— 8.8	62.0	1884	—17.0	1880, 1881
Nebraska	North Platte	66.7	— 5.0	79.0	1870	—10.0	1877
Do	Omaha	73.1	9.1	74.0	1874	— 6.0	1875
Nevada	Winnemucca	58.7	0.6	70.8	1885	— 9.0	1880
New Hampshire	Mount Washington	45.3	— 1.8	51.0	1885	—40.0	1875
New Jersey	Atlantic City	65.0	24.4	72.0	1882	10.0	1875
Do	Sandy Hook	68.9	29.0	73.0	1881	6.0	1880
New Mexico	Santa Fé	58.8	— 0.4	77.0	1878	—11.0	1880
New York	Buffalo	62.0	22.4	68.3	1881	2.5	1875
Do	New York City	72.7	28.6	74.0	1882	7.0	1875
North Carolina	Charlotte	74.0	27.5	80.0	1879	18.0	1880
Do	Wilmington	77.4	29.7	83.0	1877, 1879	20.0	1872
Ohio	Cincinnati	72.8	18.1	75.8	1879	5.0	1880
Do	Cleveland	71.0	19.6	72.5	1882	0.0	1880
Oregon	Portland	57.8	25.6	68.0	1873	22.5	1880
Do	Roseburg	63.0	22.3	69.7	1884	17.5	1880
Pennsylvania	Pittsburg	68.8	22.0	79.0	1876	4.0	1880
Do	Philadelphia	72.7	26.9	77.0	1876	8.0	1875
Rhode Island	Block Island	63.5	32.5	70.0	1881	19.0	1880
South Carolina	Charleston	78.0	34.9	82.0	1879	28.0	1873, 1881
Tennessee	Knoxville	72.5	23.7	80.5	1881	11.5	1872
Do	Nashville	73.6	22.7	80.6	1882	13.0	1872
Texas	Fort Davis	81.0	17.5	81.6	1883	6.0	1880
Do	Galveston	85.1	34.5	82.0	1875, 1876	29.0	1880
Utah	Salt Lake City	60.0	14.4	70.0	1882	3.0	1880
Virginia	Lynchburg	73.3	24.1	80.2	1882	13.0	1880
Do	Norfolk	74.8	29.7	80.0	1879	20.0	1872
Washington Ter.	Spokane Falls	53.8	5.4	60.0	1885	3.0	1881
Do	Olympia	57.5	27.0	63.0	1884	21.0	1882
Wisconsin	La Crosse	67.8	6.7	70.0	1874	—21.0	1875
Do	Milwaukee	67.3	11.3	70.0	1874, 1882	—14.0	1875
Wyoming	Cheyenne	.....	.....	69.0	1876	—20.0	1875

Middle slope.—1st to 30th.

Southern slope.—2d to 6th, 8th, 9th, 11th to 21st, 23d to 29th.

Southern plateau.—1st to 5th, 8th to 11th, 13th to 30th.

Middle plateau.—1st to 30th.

Northern plateau.—1st to 19th, 21st, 22d, 24th to 30th.

North Pacific coast region.—1st to 23d, 25th to 30th.

Middle Pacific coast region.—1st to 7th, 10th, 12th, 13th, 14th, 16th to 19th, 20th to 30th.

South Pacific coast region.—Los Angeles, California, 1st, 2d, 3d, 13th, 16th, 17th, 18th, 19th, 22d, 23d, 24th; Poway, California, 17th to 21st, 23d, 24th, 25th; Cahuenga, California, 17th, 19th, 24th.

ICE.

Ice formed in the southern parts of the country, as follows:

Alabama.—Mobile, 18th; Montgomery, 26th, 28th.

Arizona.—Yuma, 20th.

California.—Los Angeles, 16th, 17th, 19th.

Florida.—Pensacola, 19th.

Georgia.—Forsyth, 7th, 8th, 9th, 14th, 26th to 29th.

Mississippi.—Vicksburg, 18th.

North Carolina.—Reidsville, 1st, 7th, 8th, 9th; Raleigh, 7th; Charlotte, 19th, 27th; Smithville, 8th, 19th.

New Mexico.—Gallinas Spring, 2d.

South Carolina.—Charleston, 8th, 9th; Spartanburg, 9th, 19th, 20th, 26th to 29th.

Tennessee.—Chattanooga, 7th, 8th, 9th, 14th, 18th, 19th, 26th, 28th; Nashville, 1st, 7th, 8th, 14th, 15th, 16th; Milan, 7th; Ashwood, 1st, 7th, 8th, 13th to 16th, 18th, 19th, 26th, 27th.

Texas.—Abilene and Fort Davis, 13th and 17th; Galveston, 17th; Corsicana, 13th, 16th, 17th, 18th, 20th, 25th, 26th, 27th.

TEMPERATURE OF WATER.

The following table shows the highest and lowest temperatures of water observed at the several stations; the monthly ranges of water temperature; the average depth at which the observations were made; and the mean temperature of the air:

Temperature of water for November, 1886.

Station.	Temperature at bottom.		Range.	Average depth, feet and tenths.	Mean temperature of the air at station.
	Max.	Min.			
	°	°	°		°
Alpena, Michigan	46.3	30.6	15.7	11.2	32.0
Augusta, Georgia	59.6	49.8	9.8	6.9	51.9
Baltimore, Maryland	59.6	45.0	14.6	12.3	46.4
Block Island, Rhode Island	56.4	45.5	10.9	8.1	46.6
Boston, Massachusetts	52.2	42.1	10.1	22.6	42.8
Buffalo, New York	53.0	33.7	19.3	14.3	37.3
Canby Fort, Washington Territory	49.3	46.0	3.3	14.8	45.6
Cedar Keys, Florida	73.1	56.1	17.0	7.7	60.0
Charleston, South Carolina *	66.9	56.7	10.2	37.3	57.1
Chincoteague, Virginia	69.4	46.2	23.2	3.1	50.0
Chicago, Illinois	48.4	32.5	15.9	8.1	38.2
Cleveland, Ohio	55.0	37.7	17.3	13.2	38.9
Detroit, Michigan	49.9	33.9	16.0	26.9	38.5
Duluth, Minnesota	45.1	35.7	9.4	10.7	27.8
Escanaba, Michigan	49.7	36.2	13.5	18.8	30.1
Galveston, Texas	70.4	51.2	19.2	14.4	62.0
Grand Haven, Michigan	49.6	32.2	17.4	18.2	35.4
Jacksonville, Florida	70.9	58.5	12.4	18.0	59.1
Key West, Florida	79.2	72.2	7.0	18.8	73.2
Mackinaw City, Michigan	52.1	34.0	18.1	9.8	34.6
Macon, Fort, North Carolina	65.7	52.6	13.1	14.7	55.2
Marquette, Michigan	49.4	35.9	13.5	11.0	30.4
Mobile, Alabama	68.5	56.5	12.0	16.6	56.1
New London, Connecticut	57.6	47.0	10.6	11.5	44.4
New York City	56.6	46.8	9.8	15.4	45.3
Norfolk, Virginia	60.3	49.3	11.0	15.9	51.2
Pensacola, Florida	76.0	55.1	20.9	17.3	58.4
Portland, Maine	49.1	41.9	7.2	16.7	38.7
Portland, Oregon	49.6	40.1	9.5	48.8	41.6
Sandusky, Ohio	50.0	34.1	15.9	10.0	38.2
San Francisco, California	56.0	52.1	3.9	38.3	55.1
Savannah, Georgia	68.3	52.6	15.7	10.2	58.0
Toledo, Ohio	50.0	33.9	16.1	12.2	36.6
Wilmington, North Carolina†	59.6	51.9	4.7	8.3	55.3

* Record for 27 days. † Record for 23 days.

PRECIPITATION.

[*Expressed in inches and hundredths.*]

The distribution of rainfall over the United States and Canada for November, 1886, as determined from the reports of about five hundred and eighty stations, is exhibited on chart iii.

The precipitation of the month is above the normal in New England, New York, Pennsylvania, New Jersey, Delaware, Maryland, the Ohio Valley, Tennessee, Arkansas, and the northern portion of the east Gulf States; it is also excessive in Minnesota, Dakota, Montana, and the upper part of the Missouri Valley; in all other districts it is deficient. The departures in excess of the normal are nowhere very large; the greatest occur in Tennessee and the Ohio Valley; one station, Memphis, gives an excess 4.46; the departures in the extreme northwest are small, averaging 0.68. The rainfall of the Pacific coast has been very small, and large deficiencies occur in this region; they are especially large in the southern part of Washington Territory and in northern Oregon. Over the extreme northwestern point of Washington Territory the precipitation is unusually large, 11.80 falling at Neah Bay, and 10.44 at